Claims

1. Method for coating a non-oxidised stainless steel support plate with an electrically conducting corrosion-resistant coating, comprising applying a diffusion barrier layer containing a titanium compound, followed by applying a nickel layer, characterised in that said titanium compound comprises titanium oxide.

2. Method according to Claim 1, wherein at least one of said applied layers has a thickness of at least 25 µm.

3. Method according to one of the preceding claims, wherein an adhesion layer is applied to the support plate before titanium oxide is applied.

4. Method according to Claim 3, wherein said adhesion layer comprises NiCrAlY.

5. Method according to one of the preceding claims, wherein at least one of said layers is applied by high velocity oxygen flame spraying.

6. Fuel cell stack comprising a number of cells each having a cathode, anode and electrolyte, wherein said cells are separated by a separator plate, said separator plate comprising a support plate of stainless steel coated on the anode side with a diffusion barrier layer comprising titanium oxide provided with a nickel layer.

7. Fuel cell according to Claim 6, wherein said titanium oxide layer and/or nickel layer has a thickness of at least 25 µm.

8. Fuel cell according to Claim 6 or 7, wherein an adhesion layer is applied between said stainless steel support plate and said titanium oxide layer.

9. Fuel cell according to Claim 8, wherein said adhesion layer comprises NiCrAlY.

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